ALEXANDER WEISS CONSULTING LLC

February 17, 2013

Chet Epperson, Chief of Police
Rockford Police Department
Rockford, IL 61103

Dear Chief Epperson:

At your request I have prepared a patrol staffing analysis for the Rockford Police Department for CY 2012. During this time period there were 104,134 dispatched calls for service. This number of calls is nearly identical to the number of calls in 2007, the time of my first analysis. Based on 104,134 calls for service per year RPD responds, on average, to 285 calls per day, or about 12 per hour.

In the first part of the analysis I examined the distribution of calls for service by hour of day. These results are illustrated in figure one. This distribution is very similar to that found in prior years.

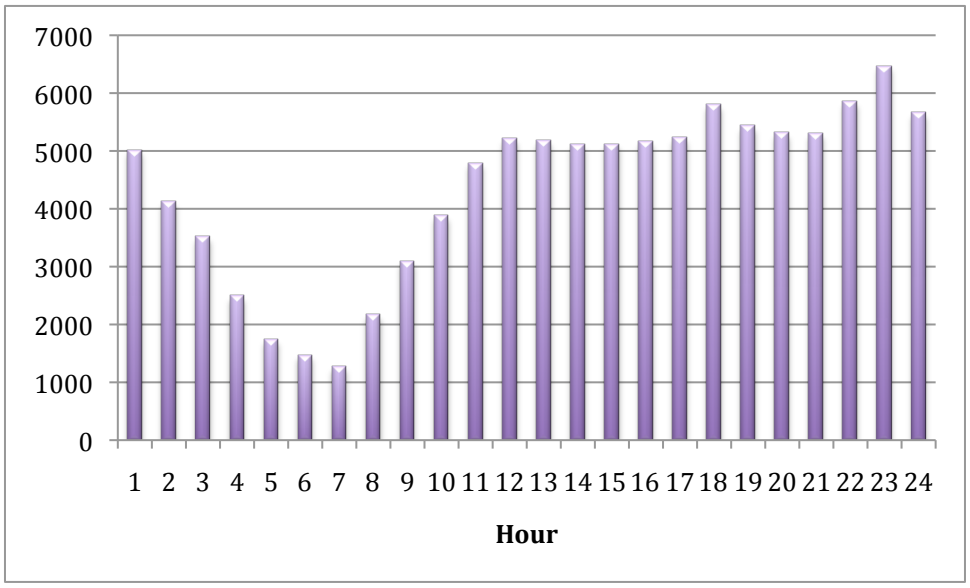

Figure 1 Dispatched Calls for Service by Hour of Day

We now turn to the staffing estimate. This analysis is based on the following steps:

1. Estimating the number and time consumed on calls for service
2. Calculation of a shift-relief factor
3. Establishing performance objectives.

Table one illustrates our estimate. We have based the analysis on three eight-hour shifts. Column 1 shows the shift times and column 2 shows the number of calls during those time periods. [1]

1	2	3	4	5	6	7	8
Hour	CFS	25%	ADJ. CFS	Hours	Units	50%	X Relief
0600-1400	30602	7650	38252	25246	8.6	17.3	30
1400-2200	43135	10784	53919	35586	12.2	24.4	42
2200-0600	23291	5823	29114	19215	6.6	13.2	23
							95

Table 1 Staffing Estimates for Eight-Hour Shifts

In column 3 we adjust the number of calls for backup units. In this case we assume that 25% of calls require a backup unit and that the backup unit remains at the scene for the duration of the call. In column 4 we show the CFS with backup. In column 5 we convert the number of calls to hours, based on an average time of 40 minutes per call. In column 6 we divide the total time consumed by 2920, the total number of hour an officer would work if they worked eight hours a day and 365 days per year. In columns 7 we illustrate the number of officers that should be on duty if the department sought to provide 50% time for discretionary activities. In column 8 we multiply the unit number by a shift relief factor of 1.7. This tells us the number of officers that should be assigned to a shift to ensure that a sufficient numbers of officers will appear for duty to meet the performance objective specified in column 7. Based on this analysis RPD should assign 92 officers to meet the 50% performance objective.

Next we show the same analysis conducted for each district. In order to examine the proposed change to 12-hour work schedules we have based our analysis on two shifts per day, starting at 0600 and 1800 hours. Based on this analysis, the change to geo-policing and 12 hour shifts will require 98 officers. [2]

[1] Unlike prior analyses we have not attempted to extract traffic accidents from this data.
[2] It is important to recall that 12 hour work schedules normally result in 42 hour work week, and thus the department will have to make adjustments to avoid paying overtime.

District 1							
		25%	CFS	Hours	Units	50%	Relief (2.5)
0600-1800	21152	5288	26840	17714	4	8	20
1800-0600	22006	5502	27508	18155	4.1	8.2	21

District 2							
		25%	CFS	Hours	Units	50%	Relief (2.5)
0600-1800	17082	4271	21353	14093	3.2	6.4	16
1800-0600	18472	4618	23090	15239	3.5	7	18

District 3							
		25%	CFS	Hours	Units	50%	Relief (2.5)
0600-1800	12922	3230	16152	10660	2.4	4.8	12
1800-0600	11354	2838	14192	9367	2.14	4.3	11

In the next section we examine the effect of changing from the current 10-hour schedule to a 12-hour schedule. The following table illustrates the number of officers **assigned** to work by hour of the day under the current allocation.

	Patrol Nights	Patrol Days	Patrol Afternoon	Day Cover	Traffic Day	Traffic Afternoon	Traffic Nights	Total
0	37		34				4	75
1	37		34				4	75
2	37						4	41
3	37						4	41
4	37						4	41
5	37							37
6	37	29			5			71
7		29			5			34
8		29			5			34
9		29		14	5	4		52
10		29		14	5	4		52
11		29		14	5	4		52
12		29		14	5	4		52
13		29		14	5	4		52
14		29		14	5	4		52
15		29		14	5	4		52
16			34	14		4		52
17			34	14		4		52
18			34	14		4		52
19			34				4	38
20			34				4	38
21	37		34				4	75
22	37		34				4	75
23	37		34				4	75

Table 2 Patrol and Traffic staffing 2012

Next we compare allocation under the current RPD schedule with a proposed 12-hour schedule. In the current schedule 57% of officers are assigned to be on duty each day. In the 12-hour schedule 50% of officers are assigned to be on duty but there are only two shifts. Table 3 illustrates the effect on hourly staffing of a change to the 12-hour schedule. As we can see there is a reduction during some late night hours but on balance, the 12-hour schedule provides better coverage during other peak demand times.

Hour	Assigned Current	On-Duty (.57)	Assigned 12 Hour	On Duty 12 hour
0	75	43	64	32
1	75	43	64	32
2	41	24	64	32
3	41	24	64	32
4	41	24	64	32
5	37	22	64	32
6	71	41	64	32
7	34	20	64	32
8	34	20	64	32
9	52	30	64	32
10	52	30	64	32
11	52	30	64	32
12	52	30	64	32
13	52	30	64	32
14	52	30	64	32
15	52	30	64	32
16	52	30	64	32
17	52	30	64	32
18	52	30	64	32
19	38	22	64	32
20	38	22	64	32
21	75	43	64	32
22	75	43	64	32
23	75	43	64	32

Table 3 Officers Assigned and On Duty

Finally, we compare the number of officers required to meet the 50% discretionary time performance standard compared with the number on-duty with ten and twelve hour configurations. This provides evidence that thee are sufficient resources under either configuration, and that the huge spike in staffing that results from the overlap period is not necessary.

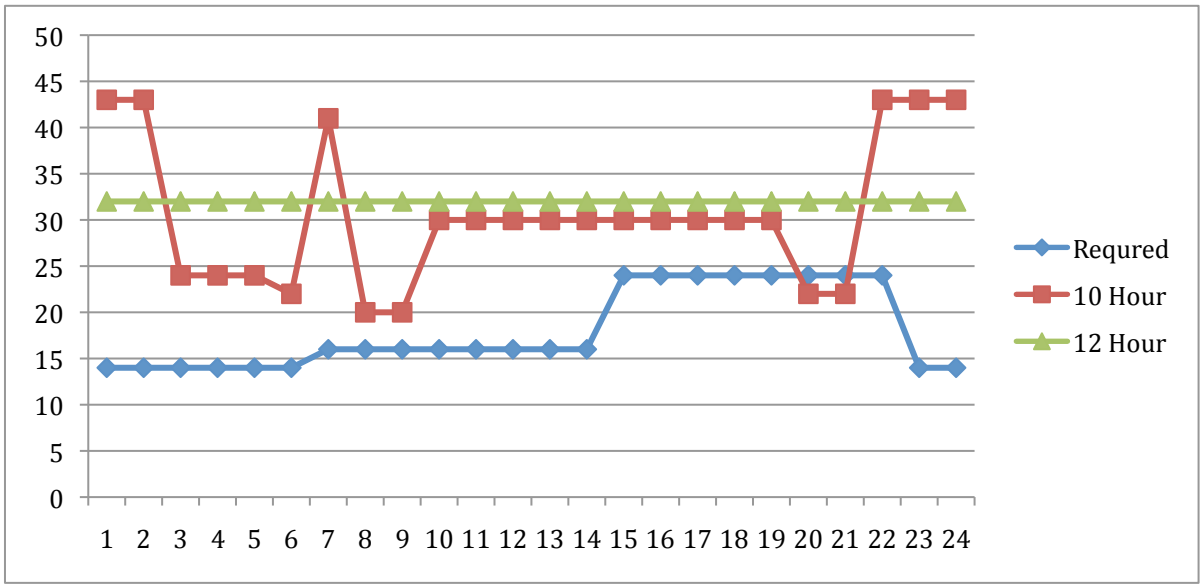

Figure 2 Required vs. Available Staffing

Please contact me if you have any questions concerning this analysis.

Sincerely,

Alexander Weiss, PhD